

REMARKS

Claims 4-7 and 11-18 are pending in this application. Claims 4, 5, 11 and 12 are independent claims.

By this amendment, claims 4, 5, 11 and 12 are amended.

Reconsideration in view of the above amendments and following remarks is respectfully solicited.

Applicants respectfully request entry of the present Amendment After Final in that the amendments to the claims do not raise any new issues that would require further consideration and/or search. For example, the amendment to independent claim 4, 5, 11 and 12 merely clarify the combinational function of the isolation amplifier. Accordingly, entry of these claim amendments and allowance of each of claims 4-7 and 11-18 is earnestly solicited in connection with the present application.

The Claims Define Patentable Subject Matter

The final Office Action makes the following rejections:

(1) claims 4-6, 11-13, 15 and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,517,685 to Aoyama et al. (hereafter Aoyama) in view of Humphries et al. (Industrial electronics, Breton Publishers, 1983, chapter 2, page 38) (hereafter Humphries); and

(2) claims 4-7 and 11-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,112,070 to Katsuyama et al. (hereafter Katsuyama) in view of Humphries.

These rejections are respectfully traversed.

Rejections under 35 U.S.C. §103(a)

Applicants respectfully submit that the claimed invention is distinguishable from the combination of (Aoyama and Humphries) and (Katsuyama and Humphries) for at least the following reasons:

The Examiner continues to allege that Aoyama discloses in Fig. 3 an isolation amplifier (22) (allegedly isolating elements 21 and 23) for amplifying the reception signal having passed through the filter. (see final Office Action, page 3). In addition, the Examiner continues to allege that Katsuyama discloses an isolation amplifier (LNA 3) (allegedly isolating elements 2A and 4) for amplifying the reception signal having passed through the filter. (see final Office Action, page 6). In an attempt to support his allegations about the isolation amplifier, the Examiner imports U.S. Patent 5,245,557, column 3, lines 1-2. (see final Office Action, page 9). Applicants respectfully disagree with these allegations.

For example, it appears that the Examiner is relying on U.S. Patent 5,245,557 to disclose that an amplifier can be either for amplification or for isolation.

However, applicants respectfully point out that the Examiner is missing the point that our claimed amplifier is being used as both an amplifier and as an isolation device. Specifically, the claimed isolation amplifier for amplifying the received signal having passed through the filter serves both as an “amplifier” and as an “isolation device”.

Aoyama and Katsuyama both merely disclose Amp (22) and LNA (3), respectively, as merely amplifiers, not as isolation devices. Furthermore, U.S. Patent 5,245,557 merely discloses that an amplifier can be provided for amplification or isolation of the input signal, not for both amplification and isolation.

In fact, U.S. Patent 5,245,557 fails to disclose that a single amplifier can provide amplification and isolation, as claimed in the present invention. Furthermore, we believe the Examiner has failed to provide support for teaching such a combination of features within a single amplifier is inherent. As such, applicants submit that the Examiner at most has only shown that an amplifier can be either for amplifying or for isolating. However, the Examiner has fallen short of disclosing in his cited art an amplifying/isolating device as claimed.

For at least the above-noted reasons, applicants submit that the Examiner has failed to provide support for his allegation that Aoyama and Katsuyama teach amplification/isolation amplifiers as claimed.

Furthermore, the Examiner continues to allege that Aoyama discloses that the cut-off frequency of the variable filter is controlled by a phase-locked loop circuit that controls a frequency of the local oscillation signal, as set forth in claim 6. The Examiner further states that the “channel selection command” signal is considered apart of the PLL. (see final Office Action, page 9). Applicants also disagree with this allegation.

For example, as shown in Aoyama Fig. 3, the PLL circuit 35 fails to have an output signal going to the variable BPF (23) to control the same. Instead, the variable BPF (23) of Aoyama receives a channel selection command signal issued specifically from a controller (not shown). (see Aoyama, col. 2, lines 39-43). As such, the controller (not shown) in Aoyama controls the variable BPF (23), not the PLL circuit (35) as alleged by the Examiner. As such, it appears that the Examiner is over-reaching in his allegations, because the cited art clearly discloses a controller sending the “channel selection command” and not the PLL as alleged by the Examiner.

In the claimed invention, the phase-locked loop (PLL) circuit controls both the cut-off frequency of the variable filter and the frequency of the first oscillation signal. As such, with the claimed configuration it is possible to eliminate the need to separately provide a circuit for controlling the cut-off frequency of the variable filter and the oscillation circuit. In other words, in the present invention, both the frequency of the local oscillation signal and the cut-off frequency of the variable filter are controlled by the PLL circuit. Similarly, claims 13, 15 and 17 fail to be disclosed by Aoyama.

In addition, regarding claims 7, 14, 16 and 18, applicants respectfully submit that the claimed voltage synthesizing method is one whereby one among a plurality of predetermined voltages is selected according to which channel is to be received. In contrast with the present invention, Katsuyama fails to disclose anything about such a claimed method.

Applicants also submit that Humphries fails to make up for the deficiencies in both Aoyama and Katsuyama noted above. Humphries merely discloses ways to construct bandpass filters. However, Humphries is completely silent about variable BPFs or the control thereof.

Applicant respectfully submits that neither Aoyama, Humphries nor Katsuyama, taken singularly or in combination, (assuming these teachings may be combined, which applicant do not admit) teach or suggest a combination amplification and isolation amplifier.

To establish a *prima facie* case of Obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

Applicants respectfully submit that the combination of cited references fail to teach or suggest each and every feature as set forth in the claimed invention.

Applicants respectfully submit that independent claims 4, 5, 11 and 12 are allowable over the cited art for at least the reasons noted above.

As for each of the dependent claims not particularly discussed above, these claims are also allowable for at least the reasons set forth above regarding their corresponding independent claims, and/or for the further features claimed therein.

Accordingly, withdrawal of the rejection of claims 4-7 and 11-18 under 35 U.S.C. §103(a) is respectfully requested.

Conclusion

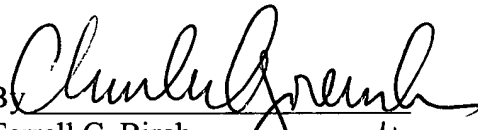
In view of the foregoing, Applicant respectfully submits that the application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Carolyn T. Baumgardner (Reg. No. 41,345) at (703) 205-8000 **to schedule a Personal Interview.**

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment from or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17; particularly, the extension of time fees.

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Respectfully submitted,

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